



Special Issue on the I International Congress on Water and Sustainability

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Editorial

The current situation of water management in Catalonia and Spain, where citizens' mobilization towards public control is forcing a debate on which is the best solution, was an excellent motivation to organize the First International Congress on Water and Sustainability.

The Congress, that took place at the School of Industrial, Aerospace and Audiovisual Engineering of Terrassa (ESEIAAT), touched four research areas: Water treatment, Cooperation and sustainability projects, Water as a vector on education, and Water management. The Congress, with its opening lecture by Josep Rull (Minister of Territory and Sustainability), Antoni Ras (Vice-rector of the Universitat Politècnica de Catalunya) and Alfredo Vega (Deputy of the Mayor of Terrassa), counted on 64 presentations and the participation of more than 150 researchers.

This special issue presents the selected and peer-reviewed papers from the first of these research areas that included subtopics, such as the use of natural products or membranes in water treatment, innovative purification/desalination technologies or the analysis of water quality in rivers and aquifers. This area also accepted sustainability-focused systems and process life cycle assessments and other environmental studies. In addition, the research topic integrated management of water resources concerning issues such as watershed management, data collection, data transmission or processing.

To treat water contaminated with heavy metals, a growing problem in the world, an innovative methodology using non-conventional technology is presented in the article *Evaluation of autochthonous free-floating macrophytes for use in the phytoremediation of industrial wastewater contaminated with lead* written by Leonardo Martín Perez.

Renato Gonzalo Riveros Alcedo presents his study entitled *Chemical treatment and reuse applications for latex paint industry wastewater*. This study analyzes several physical and chemical treatment processes of industrial wastewater with the purpose to obtain reusable water.

Jose Miguel Arnal Arnal has the honor to present two articles in this special issue. The first study, *Application of ultrafiltration for drinking water production in decentralised systems: 20 years of the AQUAPOT project*, presents the experience of implanting ultrafiltration water treatment processes in cooperative projects. The study covers first theoretical analysis, practical design and the results of its application in several countries in the world. The second paper, *Natural coagulants: analysis of potential use for drinking water treatment in developed and developing countries*, is a review on multiple natural coagulants that are suitable for water treatment processes. Natural coagulants are really important when preparing treatment solutions in impoverished countries.

Xuefei Yang et al., who work at the institute of textile in Terrassa, present their review study of inked wastewater treatment processes from the textile industry: *A review on the present situation of wastewater treatment in textile industry with membrane bioreactor and moving bed biofilm reactor*.

In a similar direction, the review by Héctor Salas et al., *Reducing environmental impact of textile waste water by natural coagulants and reuse of effluents*, analyzes and compares the environmental benefits of using natural coagulants instead of chemical coagulants in the textile industry.

Finally, the study lead by Beatriz Amante et al. *Design, automation and remote management of a water purification plant*, presents a transportable water treatment plant that uses natural coagulants. The particularity of this plant is that it can be used in a manual mode, which is an interesting solution for cooperative projects that have low budget, or in an automated mode, being suitable for remote areas.

The Guest Editors are thankful to all the staff of *Desalination and Water Treatment* for their involvement in the publication of this special issue. Their fast, easy and active attitude was essential to achieve optimal results in a really short period of time.

The Organization Committee of the I International Congress on Water and Sustainability encourages the reader to take a look to all the papers in this special issue and hopes you find it as interesting as they felt these studies were. Once done, please visit <https://www.icws.upc.edu/en> to see the rest of contributions and news concerning the second edition to come!

Guest Editors

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